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WE CLAIM:

1. A portable pressure differential generating system comprising:
a pump with an output line;
a flow control valve on said output line;
5 a high pressure line in communication with said output line,
downstream of said flow control valve;
a pressure generating element in communication with said
output line, downstream of said high pressure line; and
a low pressure line in communication with said output line,
10 downstream of said pressure generating element.
2. The system of claim 1 wherein:
said pressure generating element is a control valve.
3. The system of claim 1 wherein:
said- pressure-generating -element- is - a - fixed - laminar flow
15 element.
4. The system of claim 1 wherein:
said pressure generating element is an adjustable laminar flow
element.
5. The system of claim 1 wherein:
20 said flow control valve and said pressure generating element are
independently adjustable.
6. The system of claim 1 wherein:
said flow control valve and said pressure generating element are
adjusted in an inversely proportionate manner by a single adjustment.
- 25 7. The system of claim 4 wherein:

said flow control valve and said pressure generating element are independently adjustable.

8. The system of claim 4 wherein:

said flow control valve and said pressure generating element are
5 adjusted in an inversely proportionate manner by a single adjustment.

9. A portable pressure calibration system comprising:

a handheld measurement module having a pressure differential sensor with a high pressure input and a low pressure input;

a pressure differential generating module associated with said
10 handheld measurement module, said pressure differential generating module comprising:

a pump with an output line;

a flow control valve on said output line;

a high pressure line in communication with said output line,
15 downstream of said flow control valve and having a high pressure output;

~~a pressure generating element in communication with said~~
output line, downstream of said high pressure line; and

a low pressure line in communication with said output line,
downstream of said pressure generating element and having a low pressure
20 output.

10. The system of claim 9 and further including:

a probe having a probe high pressure line and a probe low pressure
line;

a calibration manifold providing fluid communication between said
25 probe high pressure line, said high pressure input and said high pressure
output and providing fluid communication between said probe low pressure
line, said low pressure input and said low pressure output.

11. The system of claim 9 wherein said manifold comprises:

a high pressure T-joint connecting said probe high pressure line to said high pressure input and said high pressure output; and

a low pressure T-joint connecting said probe low pressure line to said low pressure input and said low pressure output.

- 5 12. The calibration system of claim 9 wherein:
 said manifold is comprised of plastic.
13. The calibration system of claim 9 wherein:
 said manifold is comprised of metal.
14. The calibration system of claim 9 wherein:
10 said pressure generating element is a control valve.
15. The calibration system of claim 9 wherein:
 said pressure generating element is a fixed laminar flow element.
16. The calibration system of claim 9 wherein:
 said pressure generating element is a variable an adjustable laminar
15 flow element.
17. The calibration system of claim 9 wherein:
 said flow control valve and said pressure generating element are
 independently adjustable.
18. The calibration system of claim 9 wherein:
20 said flow control valve and said pressure generating element are
 adjusted in an inversely proportionate manner by a single adjustment.
19. The calibration system of claim 16 wherein:
 said flow control valve and said pressure generating element are
 independently adjustable.
- 25 20. The calibration system of claim 16 wherein:

said flow control valve and said pressure generating element are adjustable in an inversely proportionate manner by a single adjustment.

21. A method for generating a pressure differential comprising:
producing a fluid flow in an output line;
5 restricting the flow of fluid from the output line into a high pressure line;
controlling the flow of fluid from the high pressure line into a low pressure line, thereby creating a pressure differential between the high pressure line and the low pressure line.

22. The method of claim 21 wherein said restricting comprises:
10 adjustably restricting fluid flow from the output line into the high pressure line.

23. The method of claim 21 wherein said controlling comprises:
adjustably restricting fluid flow from the high pressure line to the low pressure line.

24. The method of claim 21 further comprising the step of:
15 separately adjusting the restriction of fluid flow from the output line into the high pressure line and controlling of fluid flow from the high pressure line to the low pressure line.

25. The method of claim 21 further comprising:
20 simultaneously adjusting the restriction of fluid flow from the output line into the high pressure line and controlling fluid flow from the high pressure line to the low pressure line in inverse proportion to said adjusting.

26. A method for calibrating a pressure measuring instrument comprising the steps of:
25 dynamically generating a pressure differential with a pressure source module in a handheld device;

isolating the pressure generating module from communicating with a pressure sensor in the pressure measuring instrument;

adjusting at least one valve in the pressure source to achieve a desired pressure differential;

5 measuring the pressure differential with a handheld calibrated pressure sensor;

allowing the pressure generating module to communicate with the sensor in the pressure measuring instrument;

10 comparing a pressure reading from the pressure measuring instrument to a pressure reading from the handheld sensor;

adjusting the pressure measuring instrument until the pressure reading from the instrument agrees with the pressure reading from the handheld sensor.

27. A method for calibrating a pressure measuring instrument
15 comprising:

connecting a high pressure line and a low pressure line to a pressure measuring instrument;

isolating the high pressure line and the low pressure line from communicating with a pressure sensor in the pressure measuring instrument;

20 dynamically generating a pressure differential with a pressure generating module in a handheld device connected to the high pressure line and the low pressure line;

adjusting at least one valve in the pressure generating module to achieve a desired pressure differential;

25 measuring the pressure differential with a handheld calibrated pressure sensor;

allowing the high pressure line and the low pressure line to communicate with the sensor in the pressure measuring instrument;

30 comparing a pressure reading from the pressure measuring instrument to a pressure reading from the handheld sensor ; and

adjusting the pressure measurement instrument until the pressure reading from the instrument agrees with the pressure reading on the handheld sensor.